

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) Publication number:

0 308 066 A3

(12)

EUROPEAN PATENT APPLICATION

(21) Application number: **88307529.3**

(51) Int. Cl.⁵: **A61K 31/70**

(22) Date of filing: **12.08.88**

(30) Priority: **12.08.87 US 84227**

(43) Date of publication of application:
22.03.89 Bulletin 89/12

(84) Designated Contracting States:
AT BE CH DE ES FR GB GR IT LI LU NL SE

(98) Date of deferred publication of the search report:
16.01.91 Bulletin 91/03

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(54) **Promotion of host defense by systemic dsRNA treatment.**

(57) Parenterally administered systemic dsRNAs release host mediators into various compartmentalized biological fluids to combat various microorganisms, particularly viruses, thereby reducing the infectivity and spread of various organisms including those associated with various diseases such as those caused by venereal warts, herpes and HIV.

EP 0 308 066 A3



European Patent
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EUROPEAN SEARCH REPORT

Application Number

EP 88 30 7529

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|---|--|---|---|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int. Cl.4) |
| X | PROCEEDINGS OF THE ANNUAL MEETING OF THE AMERICAN SOCIETY OF CLINICAL ONCOLOGY, Atlanta, Georgia, 17th - 19th May 1987, vol. 6, March 1987, page 2, abstract 8; W.A. CARTER et al.: "Clinical improvement of patients with HIV-related immune dysfunction on mismatched dsRNA (ampligen) therapy" * Abstract * --- | 1-3, 5, 6, 8, 9 | A 61 K 31/70 |
| Y | IDEM --- | 4, 7 | |
| D, E | EP-A-0 299 745 (HEM RESEARCH INC.) * Column 5, lines 5-11, 18, 19, 28, 30 * --- | 1-9 | |
| P, X | DIALOG INFORMATION SERVICES, file 5, BIOSIS 69-90, access. no. 0018570900; N. NGWA-SUH et al.: "Antiviral activity of ampligen against cytomegalovirus in-vitro", & ANNUAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY, Miami Beach, Fl., US, May 8-13, 1988 * Computer print-out * --- | 1-9 | |
| D, X | EP-A-0 213 921 (HEM RESEARCH INC.) * Pages 20, 21; page 24, line 24 * --- | 1-9 | |
| Y | | | TECHNICAL FIELDS SEARCHED (Int. Cl.4) |
| X, Y | HAND BOOK OF EXPERIMENTAL PHARMACOLOGY, vol. 71, Interferons and their applications, 1984, pages 535-555, Ed. P.E. CAME et al., Springer-Verlag, Berlin, DE; J.J. GREENE et al.: "Therapeutic applications of double-stranded RNAs" * Whole document, esp. page 543 * --- -/- | 1-9 | A 61 K C 07 H |
| The present search report has been drawn up for all claims | | | |
| Place of search THE HAGUE | | Date of completion of the search 30-10-1990 | Examiner ORVIZ DIAZ P. |
| CATEGORY OF CITED DOCUMENTS | | | |
| X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document | | T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document | |



CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

X LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 2-6 and 1,8,9(partially): The use of ds RNA in the manufacture of a medicament for the parenteral treatment of a viral disease.
2. Claims 7 and 1,8,9(partially): The use of ds RNA in the manufacture of a medicament for the parenteral treatment of Alzheimer's disease.

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|---|--|--|---|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int. Cl. 4) |
| D,X Y | THE LANCET, 6th June 1987, 1/8545, pages 1286-1292; W.A. CARTER et al.: "Clinical, immunological, and virological effects of ampligen, a mismatched double-stranded RNA, in patients with AIDS of AIDS-related complex" * Whole article * | 1-9 | <div>TECHNICAL FIELDS SEARCHED (Int. Cl. 4)</div> |
| Y | DIALOG. INFORMATION SERVICES, FILE 155 (MEDLINE), accession no. 06119072; P.L. McGEER et al.: "Positron emission tomography and the possible origins of cytopathology in Alzheimer's disease", & PROG. NEUROPSYCHOPHARMACOL. BIOL. PSYCHIATRY vol. 10, no. 3-5 (1986), pp. 501-518 * The abstract * | 1,7-9 | |
| Y | MOL. PHARMACOL., vol. 12, no. 2, 1976, pages 299-312; P. TS'0 et al.: "An intergrated and comparative study of the antiviral effects and other biological properties of the polyinosinic acidpolycytidylic acid and its mismatched analogues" * Whole document * | 1-9 | |
| Y | ARCH. INTERN. MED., vol. 126, July 1970, pages 109-124; M.R. HILLEMAN et al.: "Double-stranded RNAs (Poly I:C) in the prevention of viral infections" * Whole document, esp. pages 111-114 * | 1-9 | |
| The present search report has been drawn up for all claims | | | |
| Place of search THE HAGUE | | Date of completion of the search 30-10-1990 | Examiner ORVIZ DIAZ P. |
| <div> <div>CATEGORY OF CITED DOCUMENTS</div> <div> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document </div> <div> T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document </div> </div> | | | |